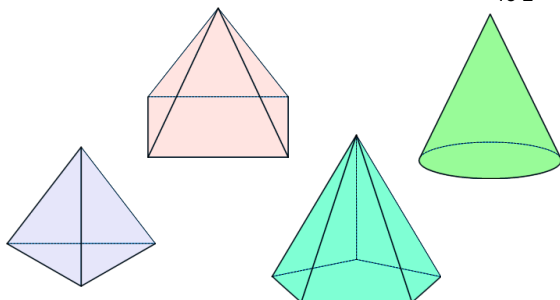
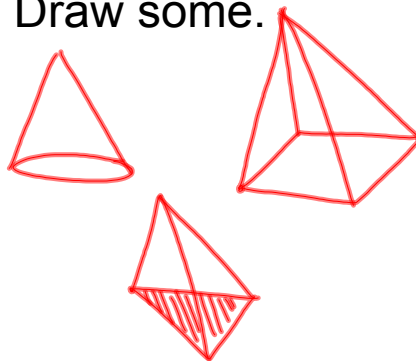


Pyramids and Cones

12-5
12-6
13-2



Draw some.



Pyramids

lateral faces--triangles

altitude-height

slant height (height of lateral face) l

regular pyramid

- base regular polygon
- lateral edges congruent
- lateral faces congruent isosceles triangles
- altitude goes to the center of base



$$LA = \frac{1}{2} p l$$

$$TA = LA + B$$

$$V = \frac{1}{3} Bh$$

$r = 5\text{cm}$
 $l = 13\text{cm}$

$h = 12\text{cm}$

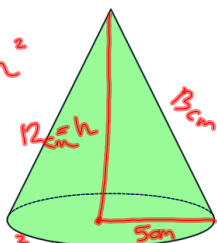
$C = 10\pi\text{cm}$

$B = 25\pi\text{cm}^2$

$LA = \frac{1}{2} pl = \frac{1}{2} 10\pi \cdot 13 = 65\pi\text{cm}^2$

$TA = 65\pi + 25\pi = 90\pi\text{cm}^2$

$V = \frac{1}{3} Bh = \frac{1}{3} 25\pi \cdot 12 = 100\pi\text{cm}^3$



Square pyramid

side is 6cm
lateral edge is 5cm

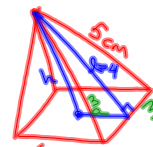
$p = 24\text{cm}$

$B = 36\text{cm}^2$

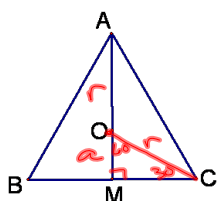
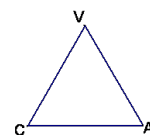
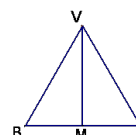
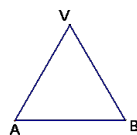
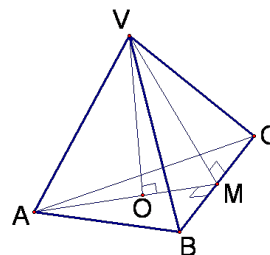
$LA = \frac{1}{2} pl = \frac{1}{2} 24 \cdot 4 = 48\text{cm}^2$

$TA = 48 + 36 = 84\text{cm}^2$

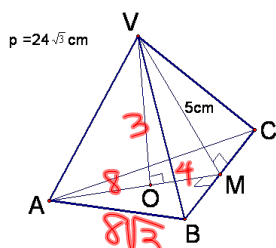
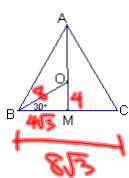
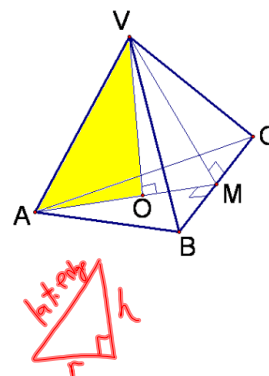
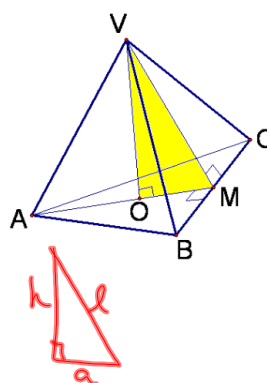
$V = \frac{1}{3} Bh = \frac{1}{3} 36\sqrt{7} = 12\sqrt{7}\text{cm}^3$



WS



$$\begin{array}{c|c|c} 30 & 60 & 90 \\ \hline x & x\sqrt{3} & 2x \end{array}$$



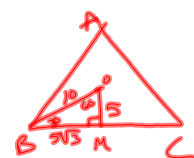
$$\frac{(8\sqrt{3})^2 \sqrt{3}}{4} = 48\sqrt{3} = B$$

$$h = 3 \text{ cm}$$

$$LA = \frac{1}{2} p l = \frac{1}{2} 24\sqrt{3} \cdot 5 = 60\sqrt{3} \text{ cm}^2$$

$$TA = 60\sqrt{3} + 48\sqrt{3} = 108\sqrt{3} \text{ cm}^2$$

$$V = \frac{1}{3} B \cdot h = \frac{1}{3} 48\sqrt{3} \cdot 3 = 48\sqrt{3} \text{ cm}^3$$



$$B = \frac{(10\sqrt{3})^2 \sqrt{3}}{4} = 75\sqrt{3}$$

$$l = 13 \text{ cm}$$

$$p = 30\sqrt{3} \text{ cm}$$

$$LA = \frac{1}{2} 30\sqrt{3} \cdot 13 = 195\sqrt{3} \text{ cm}^2$$

$$TA = 270\sqrt{3} \text{ cm}^2$$

$$V = \frac{1}{3} 75\sqrt{3} \cdot 12 = 300\sqrt{3} \text{ cm}^3$$

